

## **Claims**

1. A method of monitoring an agricultural operation in a geographical area comprising:

dispersing a plurality of sensors within said geographical area wherein each said sensor can detect a chemical or biological agent that may pose a threat to the agricultural operation; and

monitoring said plurality of sensors for the presence of one or more of said chemical or biological agents.

2. The method of claim 1 wherein the agricultural operation comprises raising plants or animals.

3. The method of claim 2 wherein the plants are selected from the group consisting of fruit crops, fungi, grain crops, trees, vegetable crops, and combinations thereof.

4. The method of claim 3 wherein the plants are selected from the group consisting of corn, mushrooms, rice, soybeans, wheat, and combinations thereof.

5. The method of claim 2 wherein the animals are selected from the group consisting of cattle, chickens, ducks, horses, pigs, sheep, and combinations thereof.

6. The method of claim 1 wherein the plurality of sensors are dispersed at the points where materials enter or exit the agricultural operation.

7. The method of claim 1 wherein the geographical area is selected from the group consisting of an acreage, a barn, a corral, a fenced-in area, a pen, a area of planted crops, a vineyard, a yard, and combinations thereof.

8. The method of claim 1 wherein the plurality of sensors comprises at least five sensors, at least twenty five sensors, or at least fifty sensors.

9. The method of claim 1 wherein the chemical agent is selected from the group consisting of carcinogens, contaminants, poisons, pollutants, toxins, and combinations thereof.

10. The method of claim 1 wherein the biological agent is selected from the group consisting of bacteria, fungi, parasites, viruses, and combinations thereof.

11. The method of claim 1 wherein monitoring comprises testing samples that enter into the agricultural operation.

12. The method of claim 11 wherein the samples are selected from the group consisting of samples of air, bedding materials, feed, fertilizer, soil, water, and combinations thereof.
13. The method of claim 1 wherein monitoring comprises testing samples that leave the agricultural operation.
14. The method of claim 13 wherein the samples are selected from the group consisting of samples of air, bedding materials, biological waste materials, effluent, soil, water, and combinations thereof.
15. A method of monitoring an agricultural operation in a geographical area comprising:
- dispersing a plurality of sensors within said area wherein each said sensor can detect a chemical or biological agent that may pose a threat to the agricultural operation;
  - monitoring said plurality of sensors for the presence of one or more of said chemical or biological agents; and
  - taking action to protect the agricultural operation upon detection of a chemical or biological agent by one or more of said plurality of sensors.
16. The method of claim 15 wherein the action is selected from the group consisting of:
- treating the animals or plants of the agricultural operation with an agent that inactivates the chemical or biological agent detected;
  - treating all or a portion of the agricultural operation with a prophylactic that prevents harm from the chemical or biological agent detected;
  - destroying all or selected portions of the agricultural operation; and
  - combinations thereof.
17. A system designed to detect potentially harmful chemical or biological agents that enter an agricultural operation comprising
- a plurality of sensors designed to detect a chemical or biological agent, wherein said plurality is dispersed throughout the agricultural operation; and
  - a control station connected to each sensor which provides information to a user on the activity of said plurality of sensors.
18. The system of claim 17 wherein the control station is a computer.

19. The system of claim 17 further comprising a means to segregate a portion of the agricultural operation from the entirety of the operation.

20. The system of claim 19 wherein said means is operably connected to said control station.